

Determinants of bank efficiency: evidence from a semi-parametric methodology

Article (Published Version)

Delis, Manthos D and Papanikolaou, Nikolaos I (2009) Determinants of bank efficiency: evidence from a semi-parametric methodology. *Managerial Finance*, 35 (3). pp. 260-275. ISSN 0307-4358

This version is available from Sussex Research Online: <http://sro.sussex.ac.uk/id/eprint/47514/>

This document is made available in accordance with publisher policies and may differ from the published version or from the version of record. If you wish to cite this item you are advised to consult the publisher's version. Please see the URL above for details on accessing the published version.

Copyright and reuse:

Sussex Research Online is a digital repository of the research output of the University.

Copyright and all moral rights to the version of the paper presented here belong to the individual author(s) and/or other copyright owners. To the extent reasonable and practicable, the material made available in SRO has been checked for eligibility before being made available.

Copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.



Determinants of bank efficiency: evidence from a semi-parametric methodology

Manthos D. Delis

*Athens University of Economics and Business, Athens, Greece, and
University of Central Greece, Lambrou Katsoni Square, Levadia, Greece, and*

Nikolaos I. Papanikolaou

Athens University of Economics and Business, Athens, Greece

Abstract

Purpose – This paper aims to analyze bank efficiency into a number of bank-specific, industry-specific and macroeconomic determinants.

Design/methodology/approach – The authors follow a semi-parametric two-stage methodology, where productive efficiency is derived via a non-parametric technique in the first stage and then the scores obtained are linked to a series of determinants of bank efficiency, using a double bootstrapping procedure.

Findings – Overall, it is found that the banking sectors of almost all the sample countries show a gradual improvement in their efficiency levels. The model used shows that a number of determinants like bank size, industry concentration and the investment environment have a positive impact on bank efficiency, which is not the case when standard Tobit models are employed.

Research limitations/implications – The findings have important implications for the relevance of well-known hypotheses that refer to the performance of the banking sectors, like the structure-conduct-performance and the efficient structure hypotheses. These implications are not necessarily verified when past conventional econometric methodologies are used.

Practical implications – The paper offers new insights to policy makers, bank managers and practitioners on the relevance of a number of driving factors of bank efficiency that might help them to improve the performance of the banking system and enhance the quality of services provided.

Originality/value – This is the first paper in the bank efficiency literature that employs a semi-parametric two-stage model, which relaxes several deficiencies of previous two-stage empirical approaches thus, offering a solution to the many problematic features of standard censored regressions.

Keywords Banks, Cost effectiveness, Modelling

Paper type Research paper

1. Introduction

It has been established that banks, in their role as financial intermediaries, contribute significantly to economic activity in a number of ways. During the last two decades, the banking sector has experienced major transformations worldwide in its operating environment. Both external and domestic factors have affected its structure, efficiency and performance. An efficient banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. Therefore, it comes as no surprise that since the publication of the seminal papers by Aigner *et al.* (1977) and Charnes *et al.* (1978), both econometric (parametric) and linear programming-based (non-parametric) methods have been employed in the estimation of bank efficiency.

